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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,025	12/11/2001	Friedrich Boecking	R.35976	8376
2119	7590	03/09/2006	EXAMINER	
RONALD E. GREIGG				GANEY, STEVEN J
GREIGG & GREIGG P.L.L.C.				
1423 POWHATAN STREET, UNIT ONE				
ALEXANDRIA, VA 22314				3752

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/831,025	BOECKING, FRIEDRICH
	<b>Examiner</b>	<b>Art Unit</b>
	Steven J. Ganey	3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 November 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 18-22,24-31,33-36,38-41 and 48 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 18-22,24-31,33-36,40,41 and 48 is/are rejected.
- 7) Claim(s) 38 and 39 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

1. Receipt is acknowledged of the amendment filed on November 28, 2005, which has been fully considered in this action.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-22, 24, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Deluca.

Deluca shows nozzle needle with a cone having a groove 35 and a cylindrical mini-blind hole with orifices, see Figures 5 and 5A.

4. Claims 30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Stevens.

Stevens shows nozzle needle with a cone 29 having a groove 26 and a nozzle needle seat 12A with orifices 25.

5. Claims 30, 33, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Schlaf et al.

Schlaf et al shows nozzle needle with a cone 7 having a groove 27 and a nozzle needle seat 9 with orifices 10.

6. Claims 30, 31, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Nylund.

Nylund shows nozzle needle with a cone 10a/10b having a groove 27, see Figure 3 and a nozzle needle seat 11a/11b with orifices 5.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 25-27 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeLuca.

DeLuca shows an injection nozzle comprising all the claimed features of the instant invention, except for the blind hole being conical and the specific width and depth ranges for the annular groove. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a conical blind hole since applicant has not indicated that such a conical blind hole solves any stated problem and it appears that the apparatus of DeLuca would perform equally as well with a conical blind hole or a cylindrical blind hole as shown. As to the width and depth of the annular groove, such ranges depend on determining the flow area deficiencies and correcting them as disclosed in col. 5. lines 38-67.

9. Claims 34, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlauf et al.

Schlaf et al shows an injection nozzle comprising all the claimed features of the instant invention, except for the specific ranges of the width and depth of the annular groove As to the depth relationship of the groove 27, see col. 2, lines 19-29 and col. 3, lines 38-55. The width of the groove would change as a result of the change in radius of the groove when determining the depth of the groove.

10. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens.

Stevens shows an injection nozzle comprising all the claimed features of the instant invention, except for the specific recitation of the width of the annular groove is one-and-a-half times greater than the diameter of the at least one injection orifice. Note that Stevens clearly shows the width of the annular groove is at least one-and-a half times greater than the diameter of the injection orifice, therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the width of the annular groove as claimed as a matter of optimum design choice and in view of applicant's arguments recited on page 8, paragraph 4, where applicant agrees with examiner's assertion that such a relationship is a matter of routine design.

#### ***Allowable Subject Matter***

11. Claims 38 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

12. Applicant's arguments with respect to claims 18-22, 24-31, 33-36, 40, 41 and 48 have been considered but are moot in view of the new grounds of rejection.

*Conclusion*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 3752

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Ganey whose telephone number is (571) 272-4899. The examiner can normally be reached on Monday, Tuesday, Wednesday, and Thursday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel, can be reached on (571) 272-4919. The fax phone number for this Group is (571) 273-8300.

sjg

2/21/06



STEVEN J. GANEY  
PRIMARY EXAMINER  
2/21/06